A new class of solar oscillation measurements

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Over the last few years the quality and quantity of basic helioseismic data have increased dramatically as instruments such as MDI on the SOHO spacecraft and the GONG network have become operational. While the data from these new instruments have led to a significant increase in our ability to make inferences about the solar interior, it has become apparent that the current analysis techniques are limiting our ability to fully utilize these data. The high signal to noise ratio of these data means that subtle details of the spectra, which were ignored in earlier analysis, have to be properly modeled, both to extract all the available information and to eliminate systematic errors. These details include both solar effects and instrumental limitations and artifacts. In this talk I will describe some recent results, some of the problems involved in the analysis of normal modes and what progress we may be able to make once we understand these problems better.